

GP-302970

CURRENT REGULATION FOR A FIELD
WEAKENING MOTOR CONTROL SYSTEM AND METHOD

ABSTRACT OF THE DISCLOSURE

A control system and method for an electric machine includes a first calculation module that receives a modified torque command and a
5 calculated stator flux command and that generates first and second
current commands and first and second voltage commands. A voltage
magnitude calculation module generates a voltage magnitude based the
first and second voltage commands. A reference voltage calculator
module generates a reference voltage based on a DC link voltage, an
10 angular stator velocity and the first and second current commands. A flux
weakening module generates the calculated flux command based on the
angular stator velocity, the reference voltage and the voltage magnitude.